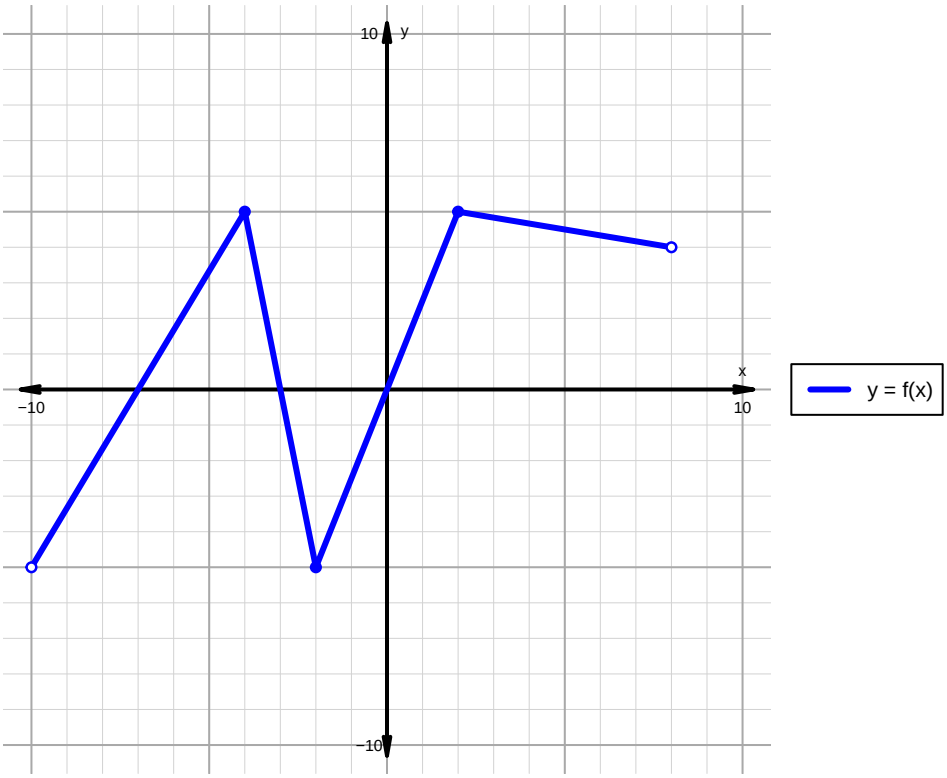
Name: Date:

Intervals, Transformations, and Slope Solution (version 59)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-3)\cup(0,8)$
Negative	$(-10,-7)\cup(-3,0)$
Increasing	$(-10,-4)\cup(-2,2)$
Decreasing	$(-4,-2)\cup(2,8)$
Domain	$(-10,8)$
Range	$(-5,5)$

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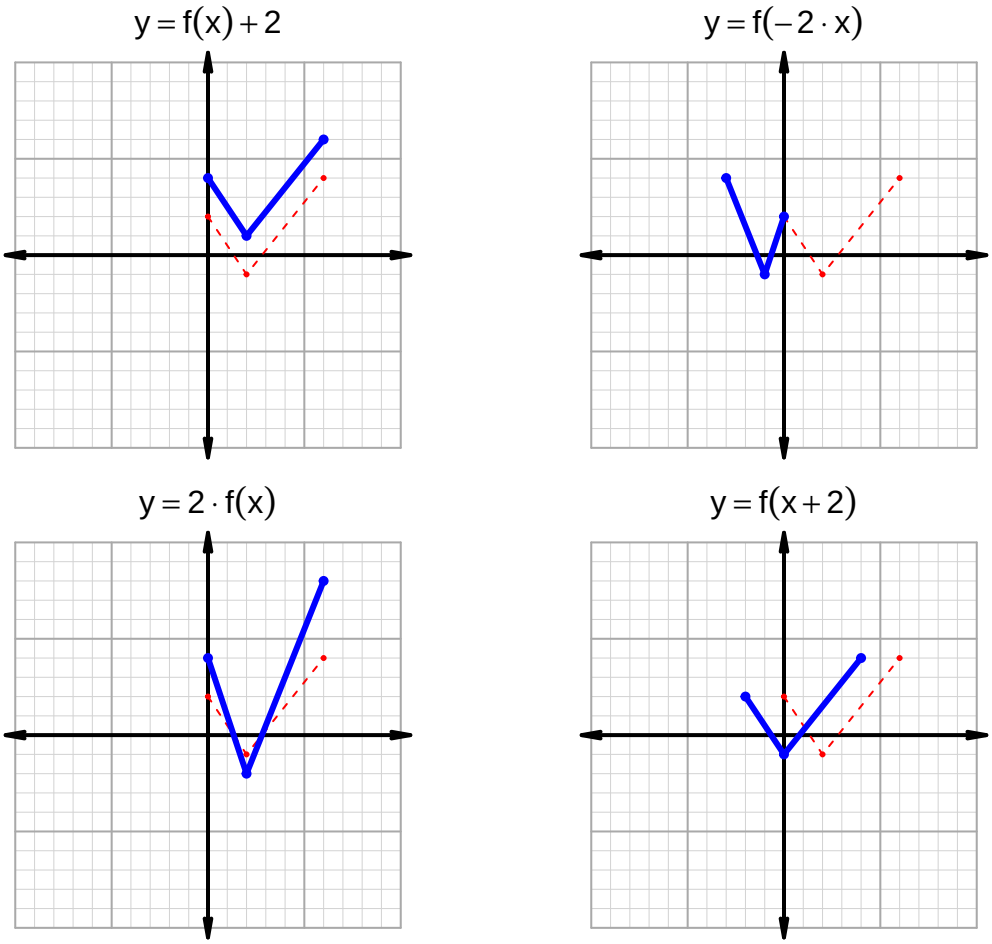
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 59$ and $x_2 = 77$. Express your answer as a reduced fraction.

x	$g(x)$
17	59
38	77
59	38
77	17

$\frac{g(77)-g(59)}{77-59} = \frac{17-38}{77-59} = \frac{-21}{18}$

The greatest common factor of -21 and 18 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{6}$$